

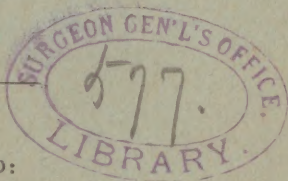
Reed (B.)

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Read in the Section on Practice of Medicine, at the Forty-seventh Annual
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Atlanta, Ga., May 5-8, 1896.

BY BOARDMAN REED, M.D.
ATLANTIC CITY, N. J.

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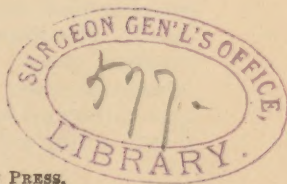
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THE FREQUENT DEPENDENCE OF INSOMNIA, MENTAL DEPRESSION AND OTHER NEURASTHENIC SYMPTOMS UPON DISEASE OF THE GASTRO-INTESTINAL TRACT.

The group of nerve derangements formerly classed under the terms nervous exhaustion and nervous prostration, and of late more appropriately labeled neurasthenia, is after all a rather vague and indeterminate entity. It has not yet any recognized pathology, and even its etiology is still in dispute. There are not wanting authors, now, who insist that neurasthenia is only another name for toxemia, and that the ptomaines and leucomaines absorbed from an infected or diseased alimentary canal are responsible for all the symptoms which it has so long been the fashion to ascribe to mental overstrain, sexual excesses or other prodigal waste of the vital and nerve forces.

Still others believe that too much food and too little exercise—too much alimentation and not enough oxygenation—cause an overcharging of the blood with uric acid, as well as other products of suboxidation, and that hence arise all or most of these nerve ills which, as is well known, afflict chiefly persons who live a luxurious, or at least a sedentary life, being relatively uncommon among those who use their muscles largely, while they eat and drink abstemiously. Haig,¹ the great exponent of the uric acid theory, believes that butchers' meat, especially when taken in excess, is the most active cause, and he brings forward a very strong array of evidence in proof of his views; but it is probable that he goes too far.

My own belief is, that while any of the various

influences just recited may, even singly and alone, produce, under certain conditions, some of the forms or manifestations of neurasthenia, especially in persons who have inherited a tendency thereto, a number of them have usually combined to develop the more aggravated types. Granted, that there are always predisposing conditions, it must now be admitted that the rôle of the indigestions and other morbid states of the alimentary tract, is most important in the causation of these nerve ails. It is an every day observation of physicians who have much to do with nervous patients that their well-being and comfort depend largely upon the condition of their stomachs and bowels.

To give this discussion a more definite and practical character, it will be best to consider here a few of the more marked and familiar symptoms of neurasthenia, rather than that elusive entity as a whole. Let us take, for instance, the mental depression, nervous erethism and insomnia, some one or all of which may always be observed in the severer cases. In the hundreds of neurasthenics who have annually come under my care in that Mecca of American invalids, Atlantic City, the symptoms just named have usually been the most pronounced and troublesome.

They may arise as a result of any of the graver forms of gastro-intestinal disease, such as cancer, gastric ulcer, chronic gastritis and dilatation of the stomach, through the lowered nutrition which such affections induce. Whether this be brought about directly as a result of a starving of the nerve centers, the blood which nourishes them having itself become impoverished, or whether the poisoning primarily of the blood and secondarily of all the tissues, by products of the fermentation, putrefaction and sub-oxidation which such diseases of the alimentary canal greatly promote, is a question which need not be entered upon here. My object in this paper is the more practical one of emphasizing the importance of the part played by

stomach and intestinal diseases in a large and most important class of nervous affections.

Cancer and ulcer are apt to be recognized and to receive special attention at a comparatively early stage of their progress, on account of the pain and frequent vomiting which they usually evoke. Gastric catarrh, however, is unfortunately often allowed to proceed to a late and serious stage before it is diagnosticated and the proper treatment begun; while atony and dilatation of the stomach, when only moderate in degree, are very generally overlooked, except by the specialist. This is much to be regretted, since, while generally curable, or at least capable of great amelioration, in the beginning, they are very intractable, as well as sadly afflicting, in their more advanced stages. Moreover, there is no reason now, why every practitioner who is fairly adept in the art of percussion, should not be able to recognize them even without the use of a tube or other intra-gastric instrumentation. A method of establishing the diagnosis in such cases, as well as in the various forms and degrees of gastrop-tosis, or stomach displacement, by external examination, has been described by me in a previous contribution.²

Constipation and its immediate sequelæ have disastrous and far reaching effects in causing disturbances of the nervous system, among which the neurasthenic symptoms now under consideration are prominent. This would of itself furnish abundant material for a separate paper, and can only be mentioned here in passing, though it will be referred to again under the head of acid dyspepsia, which is one of the conditions upon which it most frequently depends.

The so-called gastric neuroses, that is, on the one hand, a diminished secretion of hydrochloric acid with or without a decrease of the other constituents of the normal gastric juice, and on the other hand, an excessive secretion of hydrochloric acid, along with usually a hypersecretion of the digestive ferments as well, are also of importance in this connection.

The former condition is admittedly very infrequent in comparison with the latter. Diminished or absent secretion of the gastric juice, especially of its acid constituent, is constantly found as a result of advanced gastric catarrh. It means, then, an organic and virtually incurable disease, though by the proper administration of the acid and pepsin artificially, much can be done in such cases toward compensating for the defect. It is possible that in many cases in which the absence of hydrochloric acid has been observed for short intervals, alternating with periods of excess of the same acid, such absence has been the result of the prolonged and free administration of alkalies, either in substance or in the form of the Carlsbad and other mineral waters which are very rich in the soda salts. These salts, too long given, are known to have such an effect.

It so happens that in a large number of chemic examinations of the stomach contents, I have rarely ever found an absence of free hydrochloric acid, without either a coincident gastric catarrh or cancer. Two notable exceptions were one case of sea-sickness and one of brain tumor.

It was an early observation of mine that neurasthenic patients, while they generally craved nervines and narcotics, and had sometimes taken too much of them before going to the seashore, rarely made any permanent favorable progress as a result of the administration of such drugs, and that, on the other hand, they often gained remarkably in nerve tone and in the ability to obtain sound and refreshing sleep after having been put on a restricted diet together with calomel, even in the smallest doses, to correct a furred tongue and remove the congeries of symptoms popularly known as biliousness. Hydrochloric acid given with the same purpose, often brought about the same wonderful improvement in their sleep and mental condition. The appetite and digestion were helped at the same time, and following up the treatment with such nerve tonics as iron, strychnin and the phosphates or

hypophosphites, often assisted in making very gratifying cures.

A series of such favorable cases, in which insomnia and the associated nervous phenomena were very promptly relieved by the administration of hydrochloric acid, awakened hopes that an unfailing remedy had been discovered for all that class of ailments. Then came a number of cases in which hydrochloric acid not only gave no relief whatever, but even seemed to aggravate the trouble. Not being familiar at that time with the vagaries of the gastric secretion and their intimate connection with deranged intestinal peristalsis, autointoxication, uricacidemia and other abnormalities of digestion and assimilation, I was wholly at a loss to explain these diverse effects of the same drug in the same doses, upon patients suffering from apparently identical symptoms.

But we all know now that very often there is an excess of hydrochloric acid in the gastric juice. This is true not only in many cases of manifest and clearly recognized disturbance of stomach function, especially those in which pains or marked discomfort after eating are the chief symptoms, along with constipation as a rule, but also in the cases of nervous patients who claim to have good digestion and insist that they can eat anything. The latter may have large appetites, often amounting to bulimia, and though they suffer from intestinal flatulence, emphatically object to being considered dyspeptics.

The German writers call this form of disordered secretion hyperacidity, and the French term it hyperchlorhydria. English authors have described it under the name of acid dyspepsia. The administration of hydrochloric acid in the usual manner after meals in this affection, can scarcely fail to increase still further the amount of acid in the already too acid chyme about passing on into the bowel, where it is destined to work all manner of mischief, inhibiting or greatly diminishing the activity of the pancreatic and intestinal ferments, and probably provoking such a spastic

condition of the peristaltic apparatus as to bring about the constipation which is so constant an accompaniment of hyperacidity. The interference with intestinal digestion favors the development of the fermentation and putrefaction which are the plague of patients thus afflicted. The poisonous products thus engendered not only absorb directly into the blood, causing anemia, with disastrous effects as well to the nerve centers and many other structures, but also the gaseous portion of them over-distends the intestines, exciting colics, or at least sleep-disturbing pains, besides, when allowed to go on long enough, so paralyzing the muscular coats of the bowel and permanently dilating the tube as to render the constipation very difficult if not impossible to cure.

My note books show that a very large preponderance of the nervous patients who have come under my care and whose cases seemed serious enough to warrant the analysis of their stomach contents, after the usual Ewald test breakfast, were found to have an excess of hydrochloric acid.

By its great relative frequency, its insidiousness and often unsuspected beginnings, and its serious results when not actively combatted, hyperacidity is probably the cause, directly and indirectly, of more nervous derangements and ill health generally, than any other one disease of the gastro-intestinal tract. Hence this form of indigestion merits here a somewhat more detailed consideration.

When the gastric juice contains an excess of hydrochloric acid, the first symptom ordinarily observed, apart from gastric pain or discomfort, which may or may not be present, is usually constipation. My notes show that this is almost constant and proportioned in degree to the amount of the hyperacidity, though very exceptionally I have observed cases in which the bowel movements were regular or even excessive. In seeking for a rational explanation of the manner in which constipation is caused in these cases, I have been led by a large number of observed facts to infer

that in the earlier stages of the affection the super-acid stomach contents, as already intimated, often excite contractions of an irregular or spastic character in the muscular coats of the bowels, thus interfering with the normal peristaltic action. By careful palpation one can often feel contracted portions of intestine as hard cords under the fingers. Experienced masseurs sometimes report the same observation to me in these cases of hyperacidity. Such patients usually do not respond well to the ordinary purgatives, and even the milder laxatives, unless combined with alkalis, as in the popular aperient waters, are apt to produce unsatisfactory results with much griping pain. Rough massage with the usual exciting accompaniments of slapping, percussion, etc., often fails to effect any good results, while neutralizing the acidity by substantial doses of alkalies given one or two hours after meals, with the help of mild galvanic treatment and gentle rubbing and kneading of the abdomen, often overcomes the constipation without the administration of any laxative medicines whatever.

Left to itself, or wrongly treated, this constipation of hyperacidity causes intestinal flatulency, retention and absorption of the various products of fermentation and putrefaction, with a resulting endless chain of nervous derangements and other morbid effects. The autointoxication thus originated may provoke not only insomnia, mental depression and many other functional disturbances, but also, according to Bouchard² and his followers, various other diseases as well.

Pressure of the fecal masses upon the lower abdominal and pelvic nerve plexuses, as well as, in the case of women, upon the ovaries, probably effects a more direct injury in many cases, and is at least the cause of numerous reflex symptoms. Hyperacidity is the nearly constant accompaniment of gastric ulcer, and is doubtless a factor in its causation. It also tends to develop in time, if severe and uncontrolled by treatment, the serious condition known as Reichmann's disease, or a continuous hypersecretion of the gastric

juice, as well as ultimately the still worse state of marked dilatation of the stomach.

Recent experiments by Turck,⁴ of Chicago, demonstrate that in at least that form of acute gastritis which can be set up artificially in animals, there is constantly found an excess of hydrochloric acid during the earlier stages of the morbid process. Boas⁵ and some of the other recent German authors now admit the existence of an acid gastritis which they look upon as a separate and exceptional form of inflammation of the stomach; but it is a question whether, in view of Turck's observations and the analogies afforded by catarrhal processes in other organs, this form does not constantly precede the more familiar atrophic type of chronic gastritis.

It might be inferred with considerable plausibility that hyperchlorhydria is only the congestive stage of acid gastritis and the earliest stage of chronic gastritis glandularis; and possibly this may be true. But, unquestionably, such a hyperemic condition of the gastric mucous membrane with excessive secretion, may exist temporarily as a result of the generally hyperesthetic state of the nerve centers and many of the nerve endings so frequently observed in the worst forms of neurasthenia.

Hyperacidity of the gastric juice merits especial consideration in this connection for the further reason that some of the methods of treatment which are most in vogue in cases of insomnia, mental depression, etc., tend directly to increase the secretion of the hydrochloric acid and thus in the end to aggravate the malady. Thus, the tonics and stimulants which are almost universally prescribed as a matter of routine in neurasthenia, are probably all or nearly all excitants of gastric secretion, and therefore when the nervous affection is either dependent upon, or complicated with, hyperacidity, the result must often be disappointing. Mathieu⁶ asserts very positively that alcoholic liquors, spices and condiments of all kinds, and such drugs as the iodids, bromids, ferruginous salts

and the mineral and organic acids, all excite an increased secretion of hydrochloric acid. It is more than probable that strychnin, phosphorus, arsenic and the other metals in their usual therapeutic doses, have the same effect. In regard to several of these, I have myself noted in numerous cases an increase of hyperacidity while they were being administered.

For the determination of the amount of hydrochloric acid in the gastric juice there has not yet been discovered any reliable method except the quantitative chemic analysis of a definite number of cubic centimeters of a sample of the stomach contents obtained at a certain interval after a test meal, usually one hour after the Ewald test breakfast, which consists of two ounces of bread and a half pint of either water or weak tea. In Germany especially, many elaborate experiments have been made with the view of finding some fixed relation between the acidity of the urine at different times of the day and the proportion of hydrochloric acid in the gastric juice, but so far with only partial success. Both Boas⁷ and Riegel⁸ quote the experiments of Quincke, Sticker and Hüber in this direction, but do not consider the claim established that the relation is sufficiently constant to be a safe guide. I have tested the matter in a number of cases and found the results too varying to be reliable.

Chemic and microscopic examinations of the stomach contents need to be made also at times during the treatment of hyperchlorhydria to note the results. It is especially important during the administration of large doses of alkalies (which have proved one of the most effective means of relieving as well as curing this affection), to watch the results very carefully. It is well also to test the urine frequently to see that it does not become entirely alkalin, and even to make an occasional microscopic examination of the blood, since a too prolonged or vigorous pushing of even the milder alkalin salts is capable of doing harm.

But the treatment of either neurasthenia or any of

the digestive disorders with which it is so generally associated, forms no part of the scope of this paper. My purpose will have been fully accomplished if the suggestions already offered shall lead to a fuller recognition, in our every day work, of the intimate connection existing between the functional nervous affections and diseased conditions in the alimentary canal, as well as show the great practical importance of a more exact study of the latter by the recent scientific methods.

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